

FIG. 1

C(i)	B(i)	A(i)	S(i)	P(i)	PC *	G(i)	K(i)	C(i+1)	C'(i+1)
0	0	0	0	0	0	0	1	0	1
0	0	1	1	1	0	0	0	0	1
0	1	0	1	1	0	0	0	0	1
0	1	1	0	0	0	1	0	1	0
1	0	0	1	0	0	0	1	0	1
1	0	1	0	1	1	0	0	1	0
1	1	0	0	1	1	0	0	1	0
1	1	1	1	0	0	1	0	1	0

$$PC = P(i)C(i-1)$$

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$$CARRY = A'BC + AB'C + ABC' + ABC$$

$$= C(A'B + AB') + AB(C' + C)$$

$$= C(A'B + AB') + AB$$

$$= PC + G$$

where $P = A \text{ XOR } B$ and $G = AB$

FIG. 2A

$$CARRY' = A'B'C' + AB'C' + A'BC' + A'B'C$$

$$= A'B'(C' + C) + C'(AB' + A'B)$$

$$= A'B' + C'(AB' + A'B)$$

$$= PC' + K$$

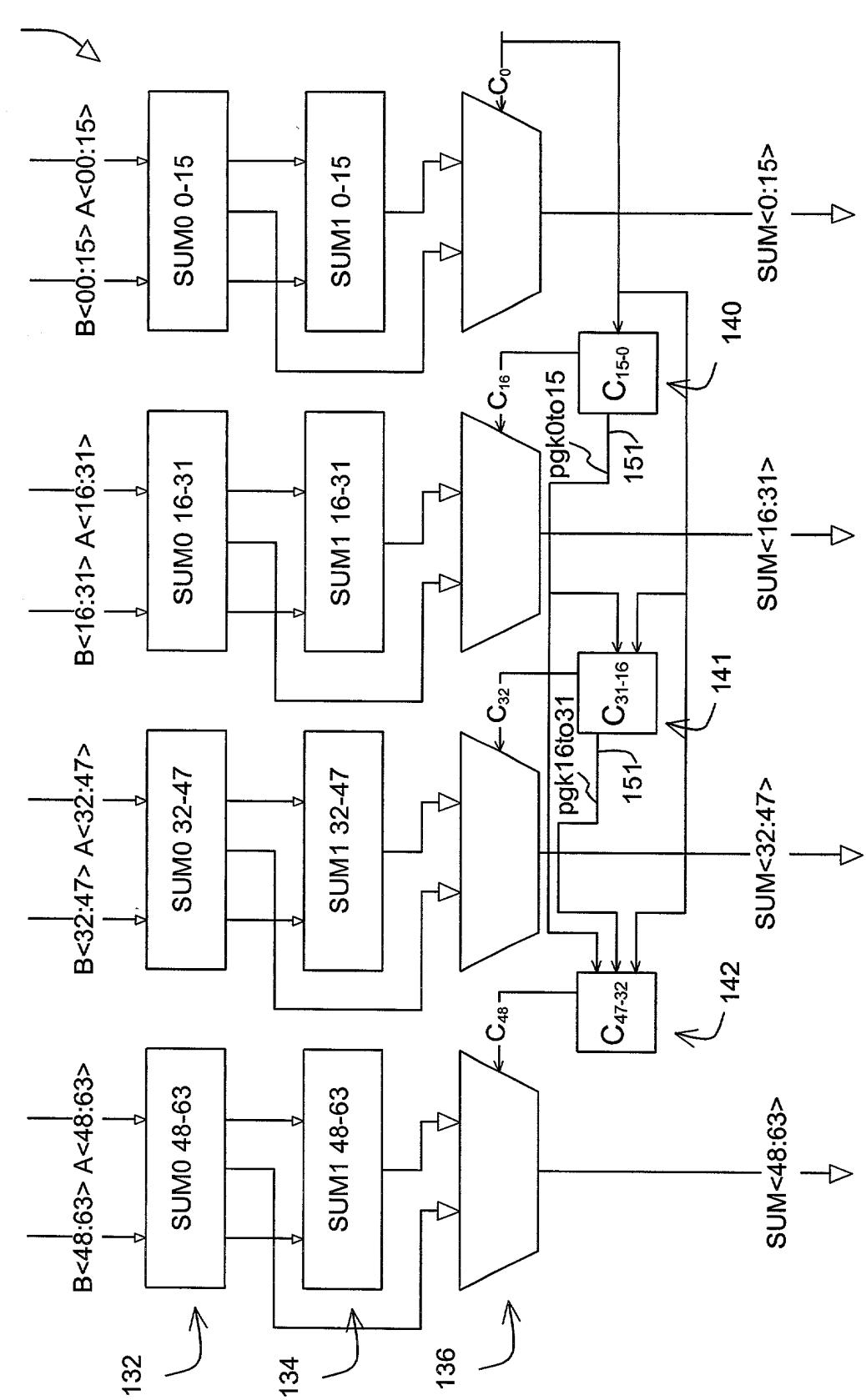
where $P = A \text{ XOR } B$ and $K = A'B'$

FIG. 2B

FIG. 3

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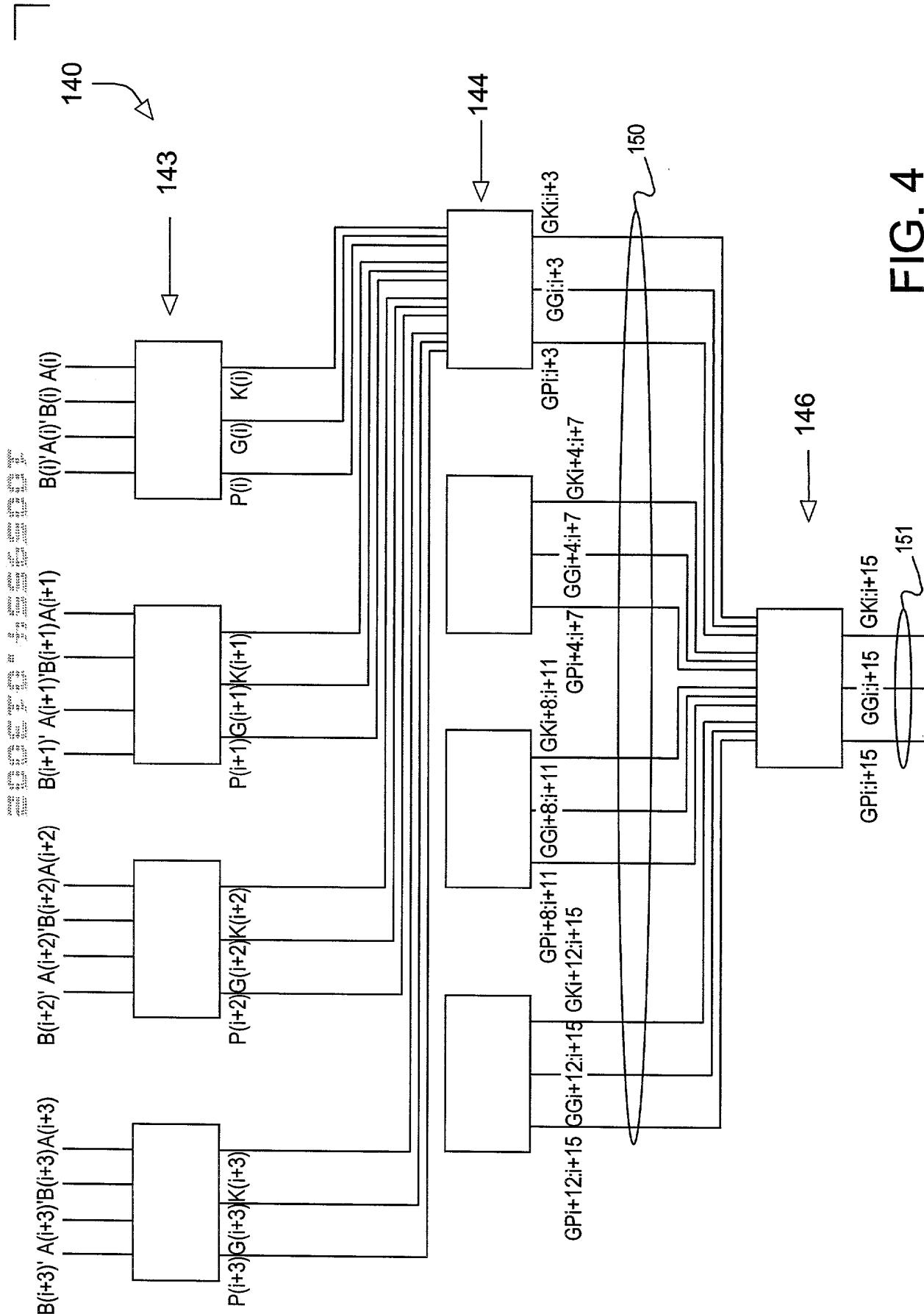


FIG. 4

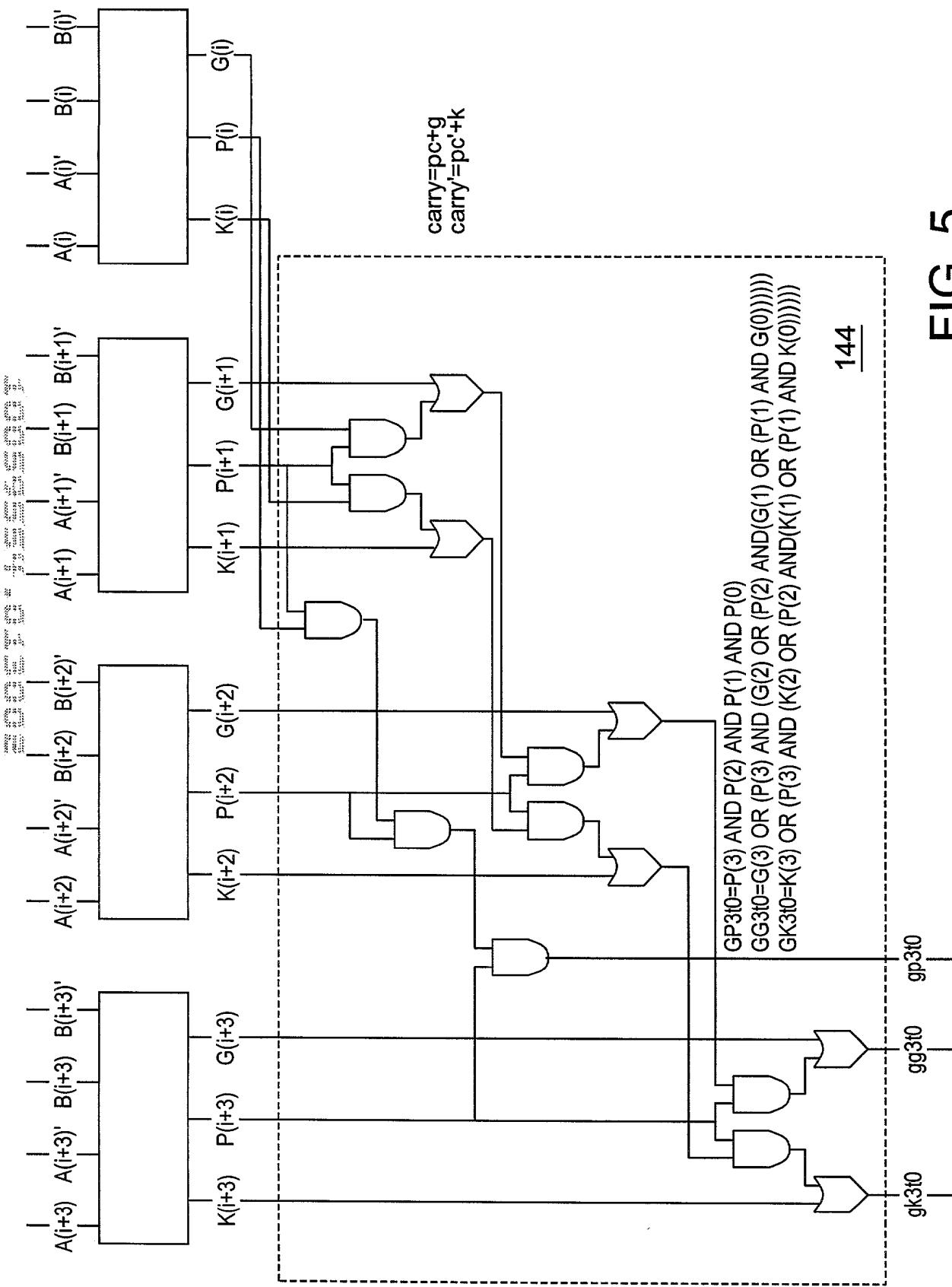
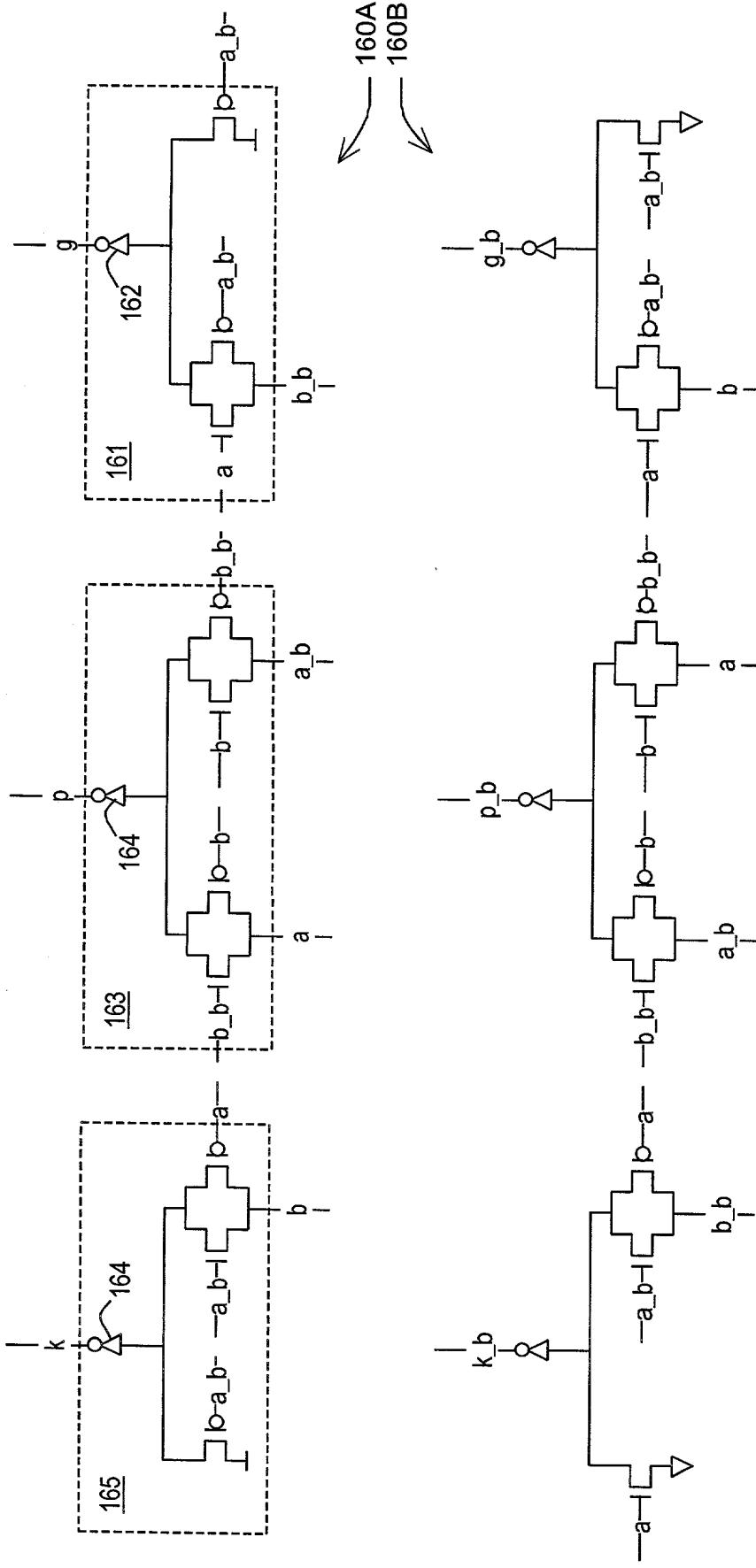


FIG. 5

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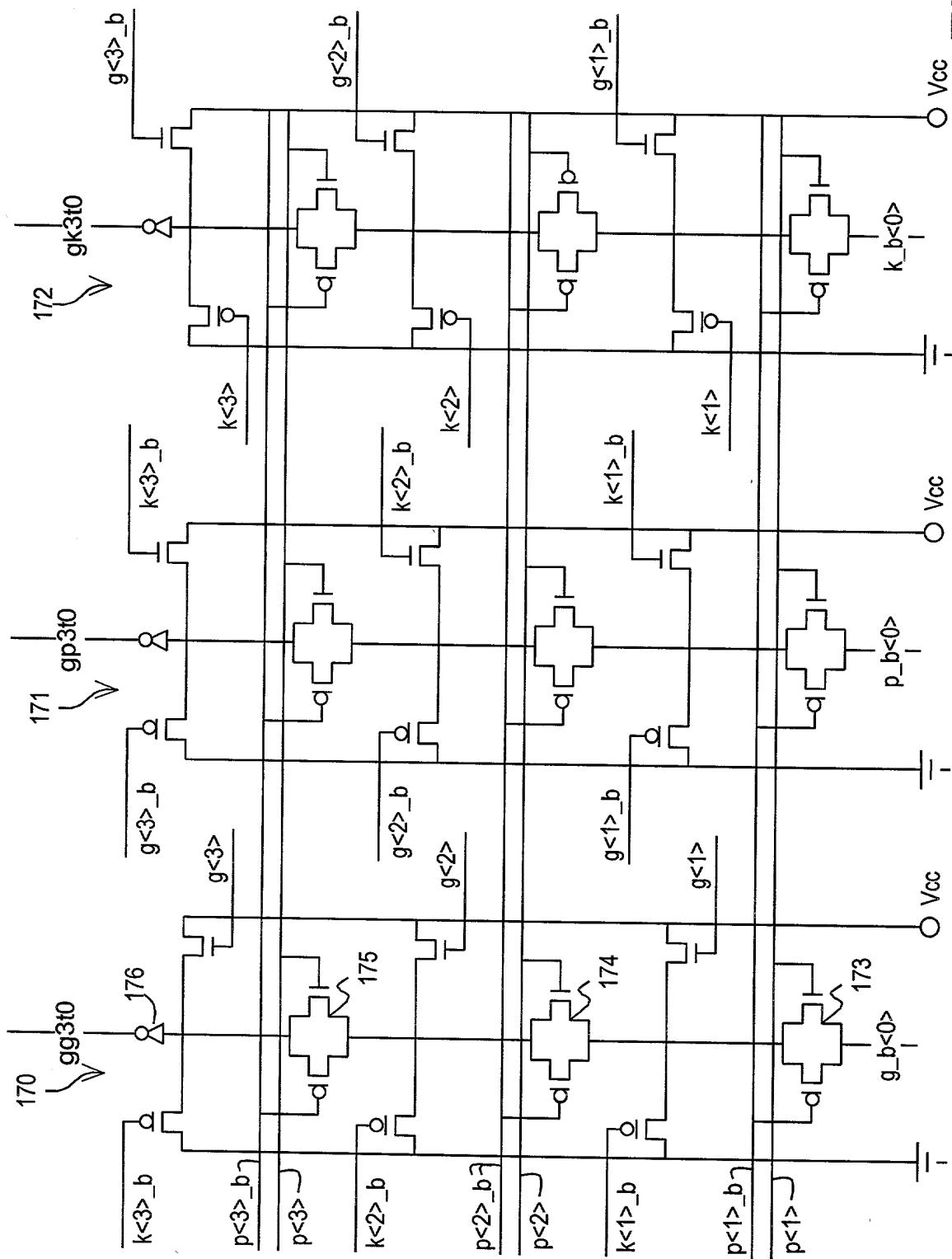


FIG. 7

FIG. 8

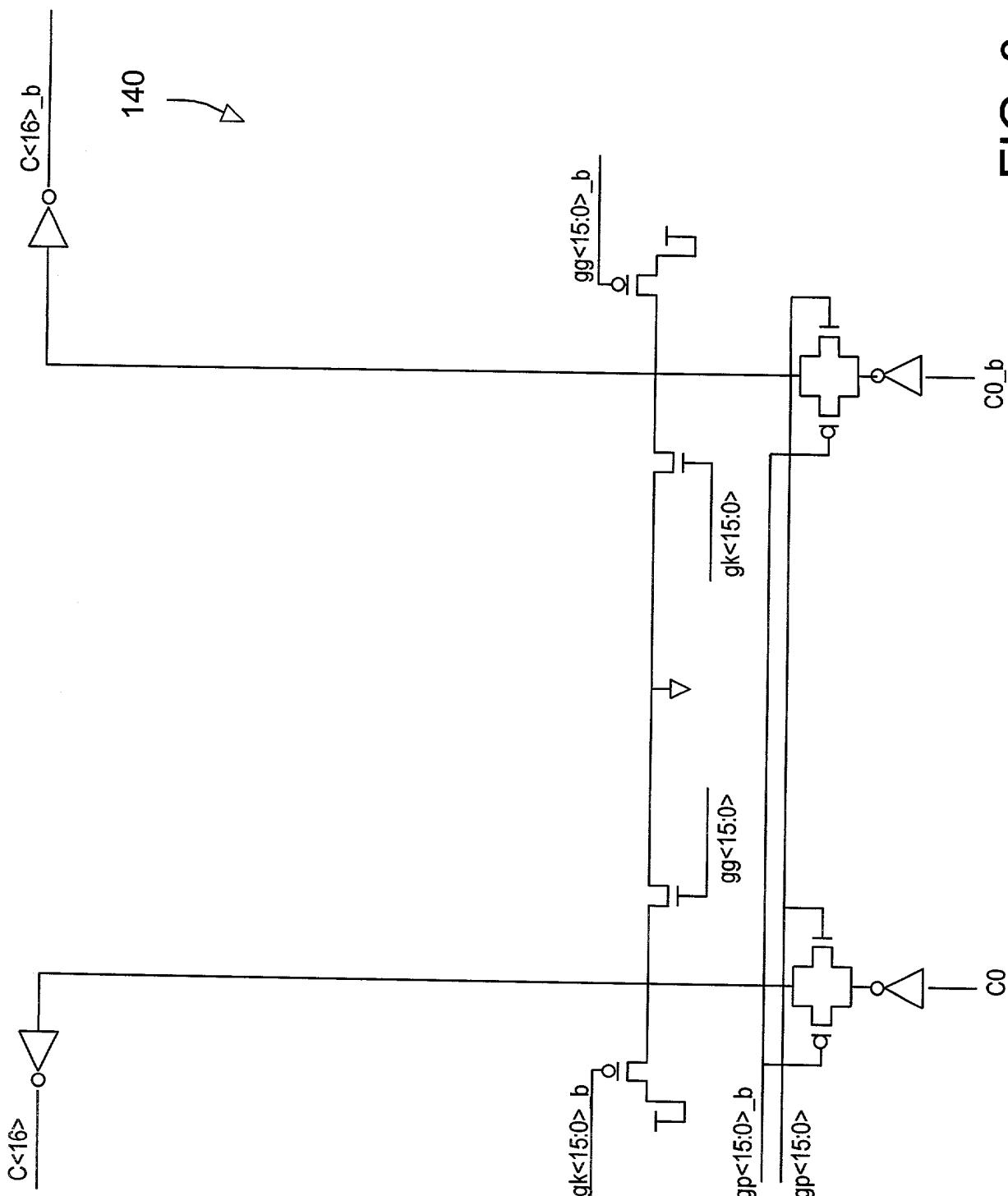
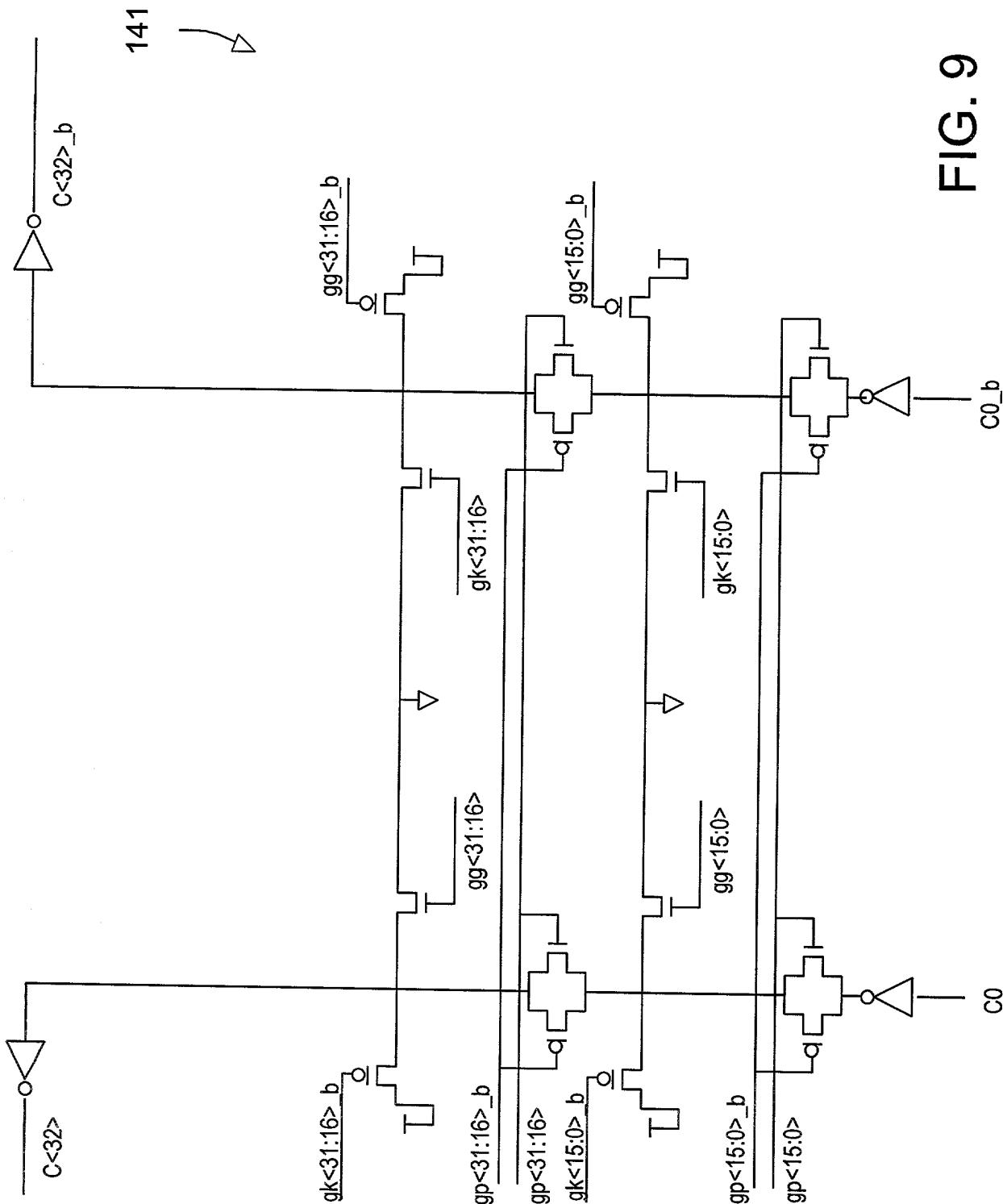


FIG. 9



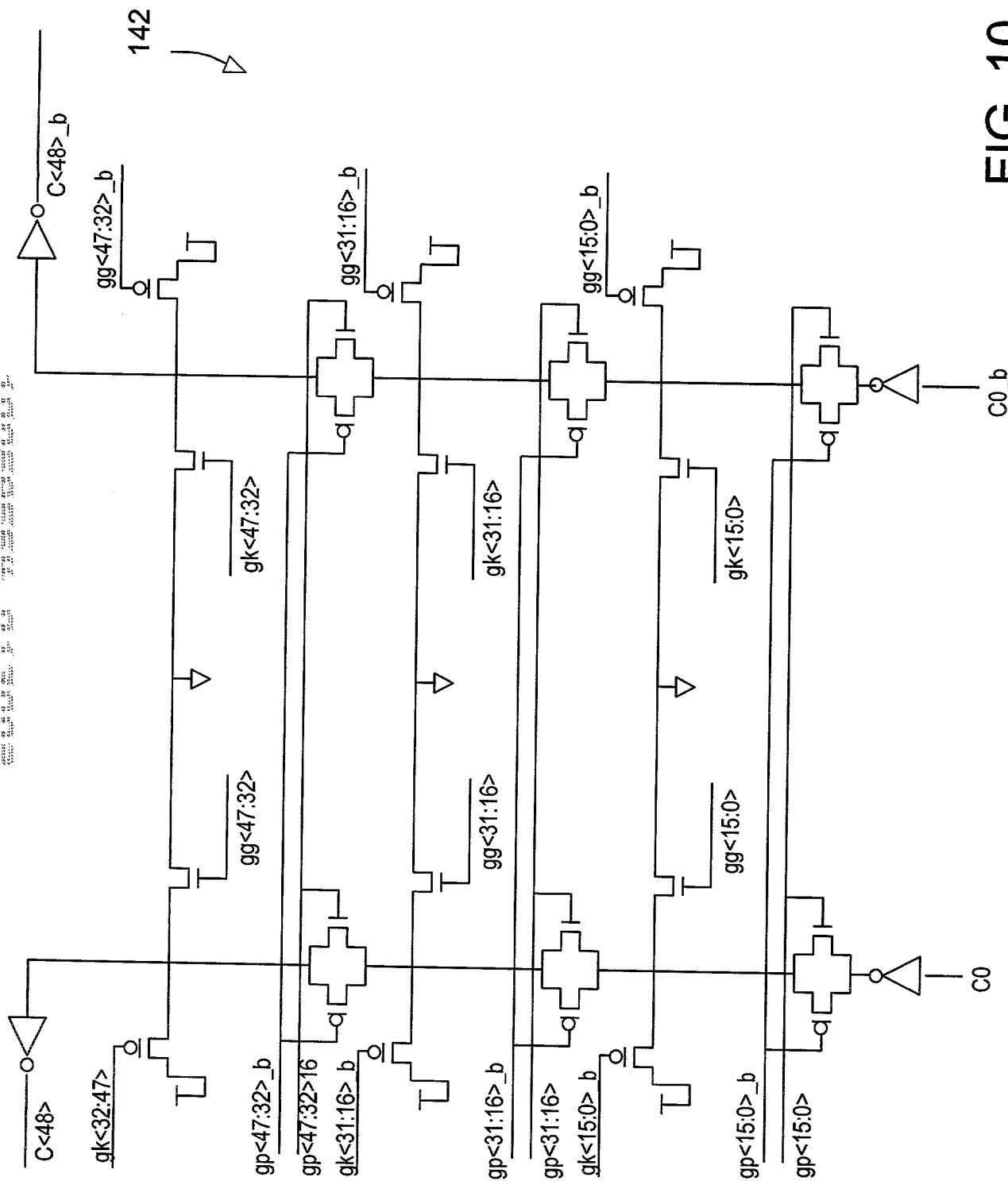


FIG. 10

FIG. 11
PRIOR ART

